

10/776,625

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NEWS 3 FEB 25 CA/CAPLUS - Russian Agency for Patents and Trademarks
(ROSPATENT) added to list of core patent offices covered
NEWS 4 FEB 28 PATDPAFULL - New display fields provide for legal status
data from INPADOC
NEWS 5 FEB 28 BABS - Current-awareness alerts (SDIs) available
NEWS 6 FEB 28 MEDLINE/LMEDLINE reloaded
NEWS 7 MAR 02 GBFULL: New full-text patent database on STN
NEWS 8 MAR 03 REGISTRY/ZREGISTRY - Sequence annotations enhanced
NEWS 9 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 10 MAR 22 KOREAPAT now updated monthly; patent information enhanced
NEWS 11 MAR 22 Original IDE display format returns to REGISTRY/ZREGISTRY
NEWS 12 MAR 22 PATDPASPC - New patent database available
NEWS 13 MAR 22 REGISTRY/ZREGISTRY enhanced with experimental property tags
NEWS 14 APR 04 EPFULL enhanced with additional patent information and new
fields
NEWS 15 APR 04 EMBASE - Database reloaded and enhanced
NEWS 16 APR 18 New CAS Information Use Policies available online

NEWS EXPRESS JANUARY 10 CURRENT WINDOWS VERSION IS V7.01a, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 12:39:36 ON 20 APR 2005

10/776,625

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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0.21

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STRUCTURE FILE UPDATES: 19 APR 2005 HIGHEST RN 848813-58-1

DICTIONARY FILE UPDATES: 19 APR 2005 HIGHEST RN 848813-58-1

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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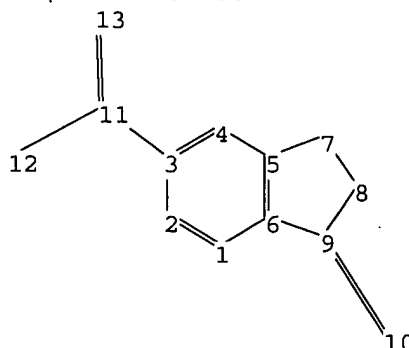
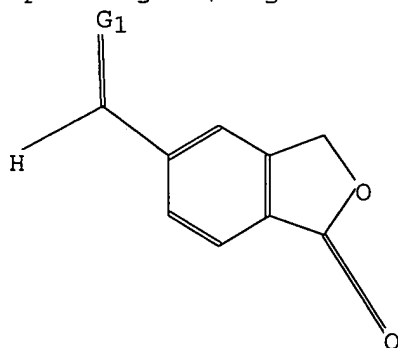
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

Uploading C:\Program Files\Stnexp\Queries\107766251.str



chain nodes :

10 11 12 13

ring nodes :

1 2 3 4 5 6 7 8 9

10/776,625

chain bonds :
3-11 9-10 11-12 11-13
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9
exact/norm bonds :
9-10 11-13
exact bonds :
3-11 5-7 6-9 7-8 8-9 11-12
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

G1:O,N

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS

L1 STRUCTURE UPLOADED

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SAMPLE SCREEN SEARCH COMPLETED - 1399 TO ITERATE

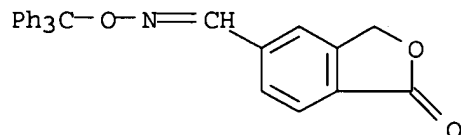
71.5% PROCESSED 1000 ITERATIONS 1 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 25737 TO 30223
PROJECTED ANSWERS: 1 TO 97

L2 1 SEA SSS SAM L1

=> d scan

L2 1 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-[O-(triphenylmethyl)oxime] (9CI)
MF C28 H21 N O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

10/776,625

ALL ANSWERS HAVE BEEN SCANNED

=> s l1 ful
FULL SEARCH INITIATED 12:40:25 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 28982 TO ITERATE

100.0% PROCESSED 28982 ITERATIONS 12 ANSWERS
SEARCH TIME: 00.00.01

L3 12 SEA SSS FUL L1

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	161.33	161.54

FILE 'CAPLUS' ENTERED AT 12:40:34 ON 20 APR 2005
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FILE COVERS 1907 - 20 Apr 2005 VOL 142 ISS 17
FILE LAST UPDATED: 19 Apr 2005 (20050419/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

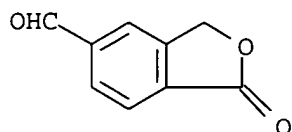
This file contains CAS Registry Numbers for easy and accurate substance identification.

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L4 17 L3

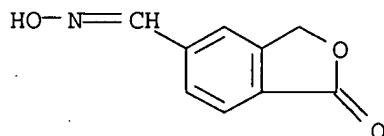
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L4 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:391288 CAPLUS
DOCUMENT NUMBER: 140:391286
TITLE: Preparation of water-soluble triazole fungicides
INVENTOR(S): Mori, Makoto; Mikoshima, Yoshiko; Koso, Toshiyuki;
Shibayama, Takahiro; Uchida, Takuya
PATENT ASSIGNEE(S): Sankyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 230 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004137255	A2	20040513	JP 2003-208038	20030820
JP 3630326	B2	20050316		
PRIORITY APPLN. INFO.:			JP 2002-241934	A 20020822
OTHER SOURCE(S):	MARPAT 140:391286			
IT 333333-34-9P 452978-39-1P				
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)				
(preparation of water-soluble triazole fungicides)				
RN	333333-34-9 CAPLUS			
CN	5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)			



RN 452978-39-1 CAPLUS
 CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-oxime (9CI) (CA INDEX NAME)



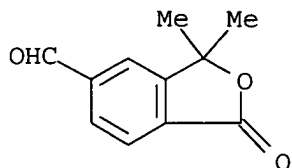
AB The title triazole compds. XOCOLOR [wherein X represents such a group that the compound represented by the formula XOH has antifungal activity; L represents (C6-10 aryl)CH₂, etc.; further detail on said aryl is given; and R represents P(:O)(OH)₂, etc.] are prepared. The conversion of one compound of this invention into a fungicidal metabolite by human liver microsomes was demonstrated. A formulation is given.

L4 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:131134 CAPLUS
 DOCUMENT NUMBER: 140:303362
 TITLE: Conversion of benzal halides to benzaldehydes in the presence of aqueous dimethylamine
 AUTHOR(S): Bankston, Donald
 CORPORATE SOURCE: Department of Chemistry Research, Bayer Pharmaceuticals Corporation, West Haven, CT, 06516, USA
 SOURCE: Synthesis (2004), (2), 283-289
 CODEN: SYNTBF; ISSN: 0039-7881
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 676345-81-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of benzaldehydes via dimethylamine-mediated hydrolysis of benzal halides)

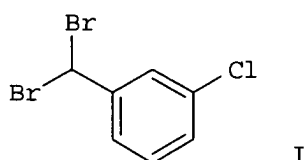
10/776,625

RN 676345-81-6 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-3,3-dimethyl-1-oxo- (9CI) (CA INDEX NAME)



GI



AB Aqueous dimethylamine was an efficient reagent for the conversion of a variety of benzal halides, e.g., I, to their corresponding benzaldehydes. Studies indicated that aqueous dimethylamine accelerated aldehyde formation from benzal halide precursors, compared to the use of water alone. These reactions were routinely completed within one hour or less, depending upon substrate substitution. The desired products were isolated in pure form, and in high yield, but silica gel filtration was often necessary to remove baseline contaminants. The method represents an economical approach to acquire pure, substituted benzaldehydes from com. available, or easily prepared starting materials.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:96296 CAPLUS

DOCUMENT NUMBER: 138:137159

TITLE: Hydrogenation process and catalysts for the preparation of 5-formylphthalide useful as an intermediate in the manufacture of the antidepressant citalopram

INVENTOR(S): Dall'asta, Leone; Cotticelli, Giovan

PATENT ASSIGNEE(S): Infosint SA, Switz.

SOURCE: Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

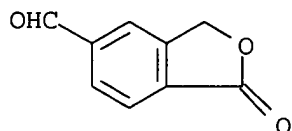
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

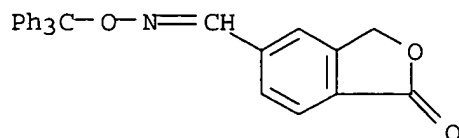
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION
EP 1281708	A1	20030205	EP 2001-830
EP 1281708	B1	20040526	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, J			

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 AT 267821 E 20040615 AT 2001-830518 20010802
 WO 2003011847 A1 20030213 WO 2002-EP8551 20020729
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
 TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG
 BR 2002011857 A 20040921 BR 2002-11857 20020729
 JP 2005501057 T2 20050113 JP 2003-517039 20020729
 US 2004225136 A1 20041111 US 2004-776626 20040131
 PRIORITY APPLN. INFO.: EP 2001-830518 A 20010802
 WO 2002-EP8551 W 20020729
 OTHER SOURCE(S): CASREACT 138:137159
 IT 333333-34-9P 493015-04-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (hydrogenation process and catalysts for the preparation of
 5-formylphthalide useful as an intermediate in the manufacture of the
 antidepressant citalopram)
 RN 333333-34-9 CAPLUS
 CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)



RN 493015-04-6 CAPLUS
 CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-[O-
 (triphenylmethyl)oxime] (9CI) (CA INDEX NAME)



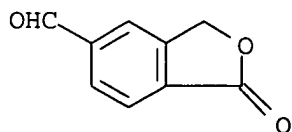
AB 5-Formylphthalide, useful as an intermediate in the manufacture of the
 antidepressant citalopram, is prepared by hydrogenation of
 5-(halocarbonyl)phthalide [e.g., 5-(chlorocarbonyl)phthalide], dissolved
 in a dipolar aprotic solvent (e.g., N,N-dimethylacetamide), in the
 presence of a hydrogenation catalyst (e.g., 5% Pd/BaSO4).
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:96293 CAPLUS

10/776,625

DOCUMENT NUMBER: 138:137156
TITLE: Process for the preparation of 5-substituted
isobenzofurans including citalopram
INVENTOR(S): Dall'asta, Leone; Cotticelli, Giovanni
PATENT ASSIGNEE(S): Infosint SA, Switz.
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

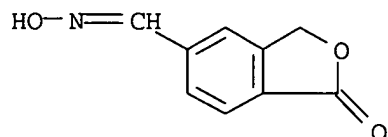
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1281707	A1	20030205	EP 2001-830517	20010802
EP 1281707	B1	20041229		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
AT 286037	E	20050115	AT 2001-830517	20010802
WO 2003011846	A2	20030213	WO 2002-EP8550	20020729
WO 2003011846	A3	20031127		
WO 2003011846	B1	20031224		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
BR 2002011858	A	20040921	BR 2002-11858	20020729
JP 2005501056	T2	20050113	JP 2003-517038	20020729
US 2004230065	A1	20041118	US 2004-776625	20040131
PRIORITY APPLN. INFO.:			EP 2001-830517	A 20010802
			WO 2002-EP8550	W 20020729
OTHER SOURCE(S):		CASREACT 138:137156; MARPAT 138:137156		
IT 333333-34-9P, 5-Formylphthalide 452978-39-1P, 1-Oxo-1,3-dihydro-5-isobenzofurancarboxaldoxime 493015-00-2P, O-Benzyl 1-oxo-1,3-dihydro-5-isobenzofurancarbaldoxime 493015-04-6P, O-Triphenylmethyl-1-oxo-1,3-dihydro-5- isobenzofurancarbaldoxime 493015-05-7P, O-Diphenylmethyl-1-oxo- 1,3-dihydro-5-isobenzofurancarbaldoxime RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (process for preparation of 5-substituted isobenzofurans including citalopram) RN 333333-34-9 CAPLUS CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)				



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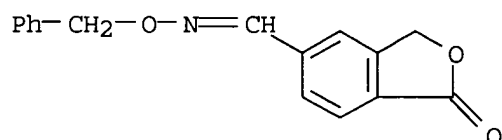
RN 452978-39-1 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-oxime (9CI) (CA INDEX NAME)



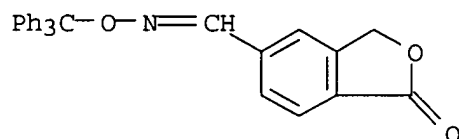
RN 493015-00-2 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-[O-(phenylmethyl)oxime] (9CI) (CA INDEX NAME)



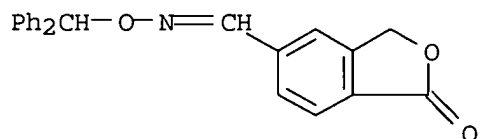
RN 493015-04-6 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-[O-(triphenylmethyl)oxime] (9CI) (CA INDEX NAME)

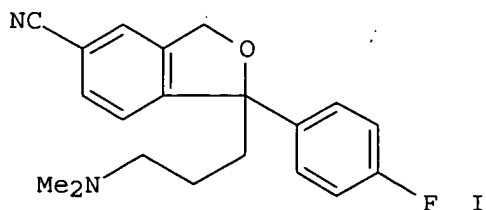


RN 493015-05-7 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-[O-(diphenylmethyl)oxime] (9CI) (CA INDEX NAME)



GI



AB There is described a process for the preparation of citalopram (shown as I) and of its pharmaceutically acceptable salts, which comprises treating a 1-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-5-isobenzofurancarbaldoxime, O-substituted preferably with a diphenylmethyl or triphenylmethyl group, with formic-acetic anhydride. Furthermore, the total synthesis of citalopram, as free base or as its pharmaceutically acceptable salt, starting from 5-formylphthalide is described.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:658113 CAPLUS

DOCUMENT NUMBER: 137:201316

TITLE: Preparation of water-soluble triazole fungicides

INVENTOR(S): Mori, Makoto; Kagoshima, Yoshiko; Uchida, Takuya; Konosu, Toshiyuki; Shibayama, Takahiro

PATENT ASSIGNEE(S): Sankyo Company, Limited, Japan

SOURCE: PCT Int. Appl., 301 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002066465	A1	20020829	WO 2002-JP1500	20020220
W: AU, BR, CA, CN, CO, CZ, HU, ID, IL, IN, KR, MX, NO, NZ, PH, PL, RU, SG, SK, US, VN, ZA				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
CA 2439001	AA	20020829	CA 2002-2439001	20020220
EP 1362856	A1	20031119	EP 2002-701569	20020220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
BR 2002007534	A	20040720	BR 2002-7534	20020220
NZ 527693	A	20041029	NZ 2002-527693	20020220
JP 2002322176	A2	20021108	JP 2002-44541	20020221
US 2004198790	A1	20041007	US 2003-647023	20030820
NO 2003003723	A	20031021	NO 2003-3723	20030821
ZA 2003006547	A	20040901	ZA 2003-6547	20030821
PRIORITY APPLN. INFO.:			JP 2001-46890	A 20010222
			WO 2002-JP1500	W 20020220

OTHER SOURCE(S): MARPAT 137:201316

IT 333333-34-9P 452978-39-1P

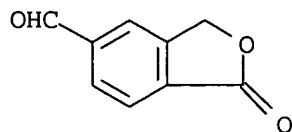
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of water-soluble triazole fungicides)

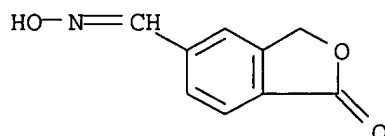
RN 333333-34-9 CAPLUS

CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)

10/776,625



RN 452978-39-1 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo-, 5-oxime (9CI) (CA
INDEX NAME)



AB The title triazole compds. XOCOLOR [wherein X represents such a group that the compound represented by the formula XOH has antifungal activity; L represents (C6-10 aryl)CH2, etc.; further detail on said aryl is given; and R represents P(:O)(OH)2, etc.] are prepared. The conversion of one compound of this invention into a fungicidal metabolite by human liver microsomes was demonstrated. A formulation is given.

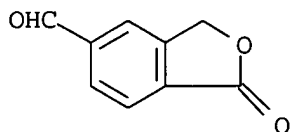
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:465993 CAPLUS
DOCUMENT NUMBER: 137:47102
TITLE: A process for the preparation of citalopram
INVENTOR(S): Guazzi, Giuseppe
PATENT ASSIGNEE(S): C.D. Farmasint S.r.l., Italy
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002048133	A2	20020620	WO 2001-EP14523	20011211
WO 2002048133	A3	20011114		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002029648	A5	20020624	AU 2002-29648	20011211
PRIORITY APPLN. INFO.:			IT 2000-MI2674	A 20001212
			WO 2001-EP14523	W 20011211

10/776,625

OTHER SOURCE(S): CASREACT 137:47102; MARPAT 137:47102
IT 333333-34-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(a process for the preparation of citalopram)
RN 333333-34-9 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)



GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

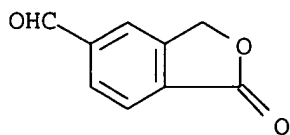
AB A process for the preparation of citalopram I, a well known antidepressant, comprising the transformation of II [R = alkyl]. Compound II is reacted in sequence with a Grignard reagent of 4-fluorophenyl halide and a Grignard reagent of a 3-halo-N,N-dimethylpropylamine, resp., giving a compound III. Compound III is hydrolyzed to a compound IV, which is converted to a 5-oxime V by means of hydroxylamine, submitted to cyclization and converted to the corresponding 5-cyano derivative, i.e. citalopram I.

L4 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:289970 CAPLUS
DOCUMENT NUMBER: 134:311097
TITLE: Preparation of phthalans, their intermediates, and citalopram
INVENTOR(S): Ikemoto, Tetsuya; Kobori, Kazuhiro; Iki, Masaki
PATENT ASSIGNEE(S): Sumika Fine Chemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

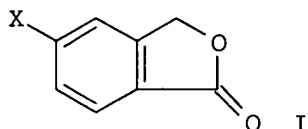
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001114773	A2	20010424	JP 1999-292076	19991014
PRIORITY APPLN. INFO.:			JP 1999-292076	19991014

OTHER SOURCE(S): CASREACT 134:311097; MARPAT 134:311097

IT 333333-34-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation citalopram from phthalides via isobenzofurancarbaldehyde)
RN 333333-34-9 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)



GI



AB Citalopram is prepared from phthalides I (X = protected formyl group) via 1-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-5-isobenzofurancarbaldehyde (II). 5-(1,3-Dioxolan-2-yl)phthalide was reacted with reagent containing 1-bromo-4-fluorobenzene and Mg in THF at room temperature for 2 h, reacted with reagent containing 3-(dimethylamino)propyl chloride and Mg at room temperature for 18 h, and treated with H₃PO₄ at 80° for 2 h to give 65% II, which was reacted with hydroxylamine hydrochloride in the presence of Et₃N in acetonitrile at room temperature for 15 h to give 89% citalopram.

L4 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:270419 CAPLUS

DOCUMENT NUMBER: 134:280701

TITLE: Preparation of 5-cyanophthalide and its intermediates, 5-halogenomethylphthalide and 5-formylphthalide using no toxic substances

INVENTOR(S): Ikemoto, Tetsuya; Kobori, Kazuhiro; Iki, Seimi

PATENT ASSIGNEE(S): Sumika Fine Chemicals Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

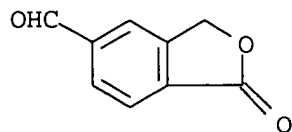
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001106681	A2	20010417	JP 1999-287313	19991007
PRIORITY APPLN. INFO.:			JP 1999-287313	19991007
OTHER SOURCE(S):			CASREACT 134:280701; MARPAT 134:280701	
IT 333333-34-9P				
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)				
(preparation of 5-cyanophthalide as intermediate for citalopram)				
RN 333333-34-9 CAPLUS				
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1-oxo- (9CI) (CA INDEX NAME)				



AB 5-Cyanophthalide, useful as an intermediate for citalopram (antidepressant), is prepared by dihalogenation of 2,4-dimethylbenzoic acid or its lower alkyl esters, cyclization, formylation of the resulting 5-chloro- or 5-bromomethylphthalide, and cyanation. Thus, formylation of 5-bromomethylphthalide with hexamethylenetetramine and H₂O in 80% AcOH under reflux for 2 h gave 81% 5-formylphthalide, which was treated with NH₂OH.HCl in the presence of Et₃N at 65° for 1 h in MePh and further treated with Ac₂O at 120-125° for 3 h to afford 69% 5-cyanophthalide.

L4 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:994338 CAPLUS

DOCUMENT NUMBER: 124:29523

TITLE: 4-amino 6-substituted mycophenolic acid and derivatives with immunosuppressive activity

INVENTOR(S): Artis, Dean R.; Elworthy, Todd R.; Hawley, Ronald C.; Loughhead, David G.; Morgans, David J., Jr.; Nelson, Peter H.; Patterson, John W., Jr.; Sjogren, Eric B.; Smith, David B.; et al.

PATENT ASSIGNEE(S): Syntex (U.S.A.) Inc., USA

SOURCE: PCT Int. Appl., 160 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9522534	A1	19950824	WO 1995-US1783	19950216
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UG				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5525602	A	19960611	US 1994-198741	19940218
CA 2183532	AA	19950824	CA 1995-2183532	19950216
AU 9517472	A1	19950904	AU 1995-17472	19950216
ZA 9501300	A	19960816	ZA 1995-1300	19950216
EP 745071	A1	19961204	EP 1995-909544	19950216
EP 745071	B1	20011205		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1141632	A	19970129	CN 1995-191712	19950216
JP 09509170	T2	19970916	JP 1995-521864	19950216
BR 9506836	A	19971014	BR 1995-6836	19950216
IL 112668	A1	19990817	IL 1995-112668	19950216
TW 427986	B	20010401	TW 1995-84101399	19950216
AT 210126	E	20011215	AT 1995-909544	19950216
PT 745071	T	20020429	PT 1995-909544	19950216

10/776,625

ES 2169124	T3	20020701	ES 1995-909544	19950216
US 5554612	A	19960910	US 1995-452243	19950526
FI 9603222	A	19961018	FI 1996-3222	19960816
PRIORITY APPLN. INFO.:			US 1994-198741	A 19940218
			WO 1995-US1783	W 19950216

OTHER SOURCE(S): CASREACT 124:29523; MARPAT 124:29523

IT **171808-08-5P**

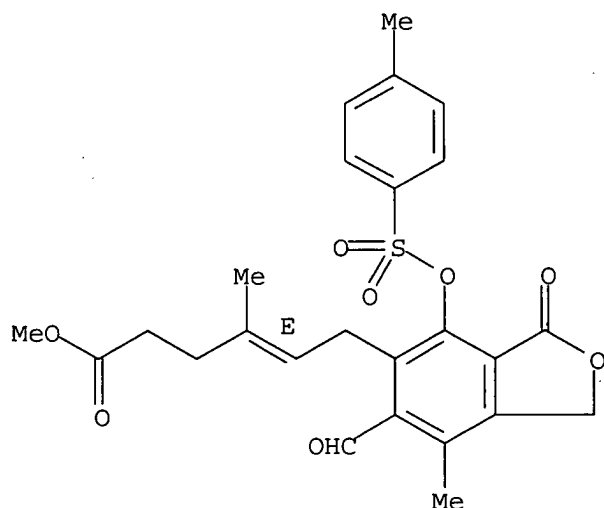
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminomycophenolic acid and derivs. with immunosuppressive activity)

RN 171808-08-5 CAPLUS

CN 4-Hexenoic acid, 6-[6-formyl-1,3-dihydro-7-methyl-4-[[4-methylphenyl)sulfonyl]oxy]-3-oxo-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



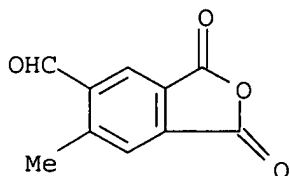
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The disclosed derivs. of mycophenolic acid of formula I [R1 = H, lower alkyl; R2 = H, lower alkyl, COR3, CONR4R5, CO2R6, SO2R3; R3 = H, lower alkyl, halo lower alkyl, substituted phenyl; R4, R5 = H, lower alkyl, substituted phenyl; R6 = lower alkyl, substituted phenyl; R7 = lower alkyl, cycloalkyl, fluorovinyl, difluorovinyl, trifluorovinyl, lower alkenyl, C.tplbond.CR8, allyl, CHO, CH2OR9; R8 = H, lower alkyl; R9 = H, 4-MeOC6H4; Z = ZA, ZB, ZC, ZD, ZE, ZF, ZG; Z1 = H, lower alkyl, halogen, CF3; Z2 = H, lower alkyl, lower alkoxy, aryl, CH2Z13, Z13 = aryl, heteroaryl; Z3 = H, lower alkyl, lower alkenyl, lower alkoxy, Ph, SOMZ12, Z12 = lower alkyl, m = 0-2; Z4 = H, lower alkyl, Ph; Z3Z4 = cycloalkyl of 3-5 carbons; G = OH, lower alkoxy, lower thioalkyl, NG1G2, O(CH2)nNG1G2, O(CH2)nN=G3, n = 1-6, G1, G2 = H, lower alkyl; =G3 = lower alkylene of 4-6 carbons or 3-5 carbons and one of O, S, NG4, G4 = H, lower alkyl; Z5, Z8 =

H, lower alkyl; D1D2 = carbocycle or heterocycle of 3-7 carbons; D3 = CH₂, CH₂CH₂; Z6 = H, lower alkyl, lower alkoxy, CO₂H, NH₂, halogen; Z7 = H, lower alkyl, lower alkoxy, halogen; D4 = CH₂, CH₂CH₂, CH₂CH₂CH₂, O, OCH₂] are therapeutic agents advantageous in the treatment of disease states indicated for mycophenolic acid and/or mycophenolate mofetil and other immunosuppressant agents.

L4 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:454057 CAPLUS
 DOCUMENT NUMBER: 122:268597
 TITLE: Gas-phase oxygen oxidations of alkylaromatics over CVD Fe/Mo/borosilicate molecular sieve. V. Para-selective oxidations of methylaromatics
 AUTHOR(S): Yoo, Jin S.; Lin, Paul S.; Elflin, Shari D.
 CORPORATE SOURCE: Amoco Research Center, P.O. Box 3011, Naperville, IL, 60566, USA
 SOURCE: Applied Catalysis, A: General (1995), 124(1), 139-52
 CODEN: ACAGE4; ISSN: 0926-860X
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 162972-05-6P, 4-Formyl-5-methylphthalic anhydride
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (from durene; oxidation selectivity of methylaroms. over borosilicate catalysts)
 RN 162972-05-6 CAPLUS
 CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-6-methyl-1,3-dioxo- (9CI) (CA INDEX NAME)

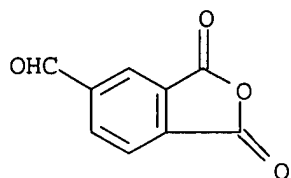


AB Gas-phase oxygen oxidation of methylaroms. was studied over the chemical vapor deposited M/Mo/partially deboronated borosilicate mol. sieve catalysts (M = Fe, Sb). The methylaroms. included PhMe, xylenes, pseudocumene, mesitylene, and durene. These catalysts exhibited the unique property of catalyzing the oxidation of the two para-oriented Me substituents in polymethylated benzenes to form terephthalaldehyde derivs. The para-oriented Me substituents played a key role in defining the catalytic activity and selectivity toward aldehyde. Terephthalaldehyde and monoaldehyde derivs. were formed from p-xylene, pseudocumene, and durene while PhMe was converted to PhCHO. M-Xylene and mesitylene remained unreactive over these catalysts.

L4 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1984:192351 CAPLUS
 DOCUMENT NUMBER: 100:192351
 TITLE: Quantum chemical study of aromatic diamine and dianhydride reactivities in acylation reactions
 AUTHOR(S): Zubkov, V. A.; Koton, M. M.; Kudryavtsev, V. V.
 CORPORATE SOURCE: Inst. Macromol. Compd., Leningrad, 199004, USSR
 SOURCE: European Polymer Journal (1984), 20(4), 361-70
 CODEN: EUPJAG; ISSN: 0014-3057

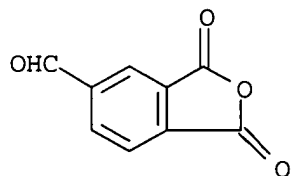
10/776,625

DOCUMENT TYPE: Journal
LANGUAGE: English
IT 7073-35-0
RL: PRP (Properties)
(reactivity of, with diamines)
RN 7073-35-0 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



AB Semi-empirical calcns. of isolated diamines and model anhydrides and of their interaction energy, ΔE , were been made. Reactivity indexes of diamines and dianhydrides (atom charges, characteristics of frontier orbitals) were found. Anal. of the ΔE components showed that chemical structure of diamines affects mainly electrostatic and charge transfer contributions to ΔE . Chemical structure of dianhydrides influences most significantly charge transfer component. Results of the ΔE calcn. have substantiated the choice of reactivity indexes.

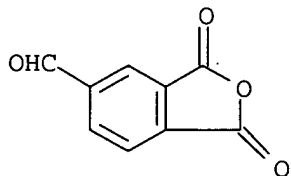
L4 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:52743 CAPLUS
DOCUMENT NUMBER: 96:52743
TITLE: Study of the reactivity of anhydride and amino groups in polyacylation of aromatic diamines with tetracarboxylic acid anhydrides
AUTHOR(S): Kudryavtsev, V. V.; Koton, M. M.; Svetlichnyi, V. M.; Zubkov, V. A.
CORPORATE SOURCE: Inst. High Mol. Combd., Leningrad, USSR
SOURCE: Plaste und Kautschuk (1981), 28(11), 601-6
CODEN: PLKAAM; ISSN: 0048-4350
DOCUMENT TYPE: Journal
LANGUAGE: German
IT 7073-35-0
RL: USES (Uses)
(quantum-chemical parameters of, aromatic diamine-dianhydride polyacylation rate consts. in relation to)
RN 7073-35-0 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



AB An evaluation of the effect of the chemical constitution of the diamines and dianhydrides on the acylation rate constant and the isomer composition of the

corresponding polyamic acid indicated that because the charge transport energy depends on the chemical constitution, the parameter ϵ_0 , the energy of the upper occupied shell, and the parameters ϵ_{uf} , the energy of the lower free shell, and fr , the limiting d. of electrons in the CO carbon atom, can be used as an index of the reactivity of amines and aromatic anhydrides, resp. The relation between the electron affinity of the dianhydrides and the ionization potential of the diamines and the reactivity of the compds. is confirmed.

L4 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1981:604516 CAPLUS
 DOCUMENT NUMBER: 95:204516
 TITLE: Quantum-chemical analysis of the reactivity of aromatic diamines in acylation using phthalic anhydride
 AUTHOR(S): Zubkov, V. A.; Koton, M. M.; Kudryavtsev, V. V.; Svetlichnyi, V. M.
 CORPORATE SOURCE: Inst. Vysokomol. Soedin., Leningrad, USSR
 SOURCE: Zhurnal Organicheskoi Khimii (1981), 17(8), 1682-8
 CODEN: ZORKAE; ISSN: 0514-7492
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 IT 7073-35-0
 RL: PRP (Properties)
 (interaction of, with aniline, quantum-chemical anal. of)
 RN 7073-35-0 CAPLUS
 CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

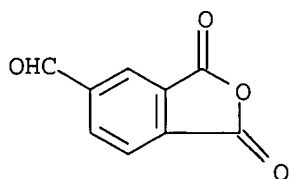


AB The interaction energy (E_{int}) between aromatic diamines (p-phenylenediamine [106-50-3], 4,4'-diaminodiphenyl ether [101-80-4], etc.) and phthalic anhydride [85-44-9] was calculated by quantum-chemical perturbation theory. A correlation was found between changes in E_{int} and changes in the acylation rate consts. and pK_a of the diamines, permitting the use of E_{int} as a composite reactivity index. Anal. of the components of E_{int} indicated sensitivity of the Coulomb interaction to structure of the diamines, and provided justification for using the magnitude of the charge on N atoms of the diamines as a static reactivity index. The donor-acceptor interaction was less dependent on the structure of the diamines. For comparison, the E_{int} was calculated for aniline [62-53-3], with 4-hydroxyphthalic anhydride [27550-59-0] and 4-formylphthalic anhydride [7073-35-0]; the results indicated that the structure of the anhydride affects primarily the donor-acceptor and exchange interactions, and has relatively little effect on the contribution of the Coulomb interaction to E_{int} .

L4 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1981:102409 CAPLUS
 DOCUMENT NUMBER: 94:102409
 TITLE: Interaction of electron shells of phthalic anhydride and aniline in the initial stage of acylation

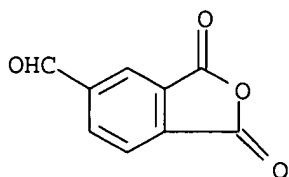
10/776,625

AUTHOR(S): Zubkov, V. A.; Koton, M. M.; Kudryavtsev, V. V.;
Svetlichnyi, V. M.
CORPORATE SOURCE: Inst. Vysokomol. Soedin., Leningrad, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1980), 16(12), 2486-91
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
IT 7073-35-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of aniline by, MO calcns. in relation to)
RN 7073-35-0 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX
NAME)



AB PMO anal. indicated that the initial stage of acylation of aniline by 4-hydroxy- and 4-formylphthalic anhydride is governed mainly by charge-transfer interactions and, to a smaller extent, by exchange, electrostatic, and polarization interactions. The substituent effect on charge-transfer energy depends on the characteristics of the 4 lowest vacant orbitals of the anhydrides. The results agree with exptl. findings.

L4 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:456127 CAPLUS
DOCUMENT NUMBER: 91:56127
TITLE: Quantum chemical analysis of the reactivity of
phthalic anhydrides in the acylation of aniline
AUTHOR(S): Zubkov, V. A.; Kudryavtsev, V. V.; Koton, M. M.
CORPORATE SOURCE: USSR
SOURCE: Zhurnal Organicheskoi Khimii (1979), 15(5), 1009-13
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
IT 7073-35-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of aniline by, MO study of)
RN 7073-35-0 CAPLUS
CN 5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX
NAME)



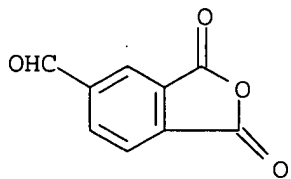
AB MO calcns. of the reactivity of 4-hydroxy- and 4-formylphthalic anhydride

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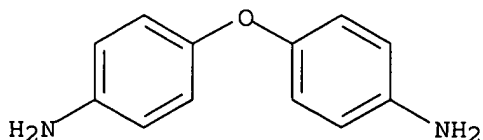
toward PhNH₂ were carried out by considering the 2 interacting mols. as 1 supermol. The relative rates can be predicted from the lowest unoccupied orbital energies. The site of nucleophilic substitution can be determined by anal. of electron densities at the carbonyl C atoms.

L4 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1970:3936 CAPLUS
DOCUMENT NUMBER: 72:3936
TITLE: Poly(imide imines) and poly(amide imines)
INVENTOR(S): Juveland, Omar O.
PATENT ASSIGNEE(S): Standard Oil Co.
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3472815	A	19691014	US 1967-647290	19670602
PRIORITY APPLN. INFO.:			US 1967-647290	A 19670602
IT 25750-58-7P, Phthalic anhydride, 4-formyl-, polymer with 4,4'-oxydianiline				
RL: IMF (Industrial manufacture); PREP (Preparation) (manufacture of, ring closure in)				
RN 25750-58-7 CAPLUS				
CN Phthalic anhydride, 4-formyl-, polymer with 4,4'-oxydianiline (8CI) (CA INDEX NAME)				
CM 1				
CRN 7073-35-0				
CMF C9 H4 O4				



CM 2
CRN 101-80-4
CMF C12 H12 N2 O



AB Poly(imide imines) (I) and poly(amide imines) (II) were prepared by treating

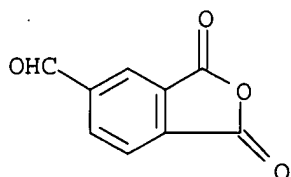
aromatic diamines with carbonyl-substituted dicarboxylic anhydrides in a N-containing organic polar solvent. Thus, 5.28 g 4-formylphthalic anhydride was

mixed with 6.0 g p,p'-oxybis(aniline) in AcNMe₂ for 2 hr at 0-25°, to give 9.55 g polymer. Only I were prepared when the process was repeated at 100-20° p,p'-Methylenebis(aniline) and p-phenylenediamine were also used as aromatic diamines. Soluble II were useful in the preparation of coatings, enamels, fibers, films, l aminates, and impregnated or molded articles which were then heat-cured to convert the II to insol. I. The I had good thermal stability and elec. properties.

L4 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1966:456620 CAPLUS
DOCUMENT NUMBER: 65:56620
ORIGINAL REFERENCE NO.: 65:10534d-f
TITLE: Lubricant additive and lubricating compositions
INVENTOR(S): Juveland, Omar O.
PATENT ASSIGNEE(S): Standard Oil Co.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 3261781		19660719	US	19631115
IT	7073-35-0, Phthalic anhydride, 4-formyl- (reaction products with 1-olefins)				
RN	7073-35-0 CAPLUS				
CN	5-Isobenzofurancarboxaldehyde, 1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)				



GI For diagram(s), see printed CA Issue.

AB To a mixture containing 100 ml. benzene, 5 g. 4-formylphthalic anhydride, and 2 ml. di-tert-butyl peroxide at 150° is added C₂H₄ to 1120 psig. Polymerization is carried out for 2.5 hrs. at 1000-1140 psig. C₂H₄. An addnl. 3 ml. peroxide is added and C₂H₄ pressure maintained at 940-1140 psig. for about 6.5 hrs. The crude is extracted with acetone to give 10.5 g. acetone-soluble 4-alkanoylphthalic anhydride (I) (.apprx. 34 C atoms in alkanoyl groups), mol. weight .apprx.578) and 16.5 g. acetone-insol. fraction (higher-mol. weight-fraction). The acetone-soluble fraction (5.5 g.) in 50 cc. C₆H₆ and 2.9 g. tetraethylenediamine in 50 cc. C₆H₆ was heated to boiling to give the tetraethylenepentamine derivative of the phthalic anhydride. I are useful as anti-rust agents in lubricant compns. The amine derivative is useful as a detergent additive in motor oils, capable of dispersing various impurities and neutralizing acid products formed in motor oils.

=> log y

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	84.43	245.97
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-12.41	-12.41

STN INTERNATIONAL LOGOFF AT 12:41:04 ON 20 APR 2005